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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,288	08/10/2001	Sanjay Chaturvedi	A01085A	4959

21898 7590 02/11/2003

ROHM AND HAAS COMPANY
PATENT DEPARTMENT
100 INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19106-2399

EXAMINER

OH, TAYLOR V

ART UNIT PAPER NUMBER

1625

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,288

Applicant(s)

CHATURVEDI ET AL.

Examiner

Taylor Victor Oh

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

The Status of Claims :

Claims 1-10 are pending.

Claims 6-7, and 9-10 have been withdrawn from consideration.

Claims 1-5 and 8 have been rejected.

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-5 and 8) in Paper No. 5 is acknowledged.

Claims 6,7, and 9-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected groups II and III, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Claim Rejections - 35 USC § 112

Claims 1-5 and 8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for those particular catalysts (Examples 1-7 and comparative Examples 1-2) represented by the empirical formula : $A_a M_b N_d X_d Ir_e Sm_f O_g$, does not reasonably provide enablement for producing all the possible combinations of different elements with specific ratios. The instant specification fails to

provide information that would allow the skilled artisan to practice the instant invention without undue experimentation.

Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation, citing *Ex Parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

- 1) the quantity of experimentation necessary,
- 2) the amount of direction or guidance provided,
- 3) the presence or absence of working examples,
- 4) the nature of the invention,
- 5) the state of the prior art,
- 6) the relative skill of those in the art,
- 7) the predictability of the art, and
- 8) the breadth of the claims.

In the instant case, the claims encompass hundreds of catalysts represented in the empirical formula. However, applicants' specification provide the only 9 particular exemplified catalyst compounds. Furthermore, the catalyst compositions represent an unpredictable aspect in the art of organic chemistry . See *Exparte Sizto*, 9 USPQ2d 2081 (Bd. Of App. And Inter. March 1988). Thus, the examples herein have failed to provide sufficient working examples to support the production of hundreds of catalyst

compositions represented in the empirical formula. Therefore, an appropriate correction is required.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A term "one solvent" is written. However, this is vague and indefinite as to the type of the solvent to be used in the process. Therefore, an appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3-5, and 8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 7-8 of copending Application No. 10/095,633 or 09/928,020. Although the conflicting claims are not identical, they are not patentably distinct from each other because either application No. 10/095,633 or application No. 09/928,020 discloses a catalyst comprising a promoted mixed metal oxide having the empirical formula: $Mo_a V_b N_c X_d Z_e O_f$.

However, application No. 10/095,633 or No. 09/928,020 differs from the instant invention in that the empirical formula is written as $Mo_a V_b N_c X_d Z_e O_f$ instead of $A_a M_b N_c X_d Ir_e Sm_f O_g$.

Even so, A is the same as Mo and M is the same as V. In addition, X is at least one element selected from Sm and Ir (see col. 11, claim section). Furthermore, the meanings of elemental symbols N, X, and Z can be interchangeable because each ratio of elements (a,b,c,d,e) overlaps with each other: for example, c is 0.01 to 1.0, whereas d is 0.01 to 1.0 (see col. 11, claim section). Moreover, the values of e and f can be zero.

Therefore, it would have been obvious to the skillful artisan in the art to have considered the limitations of the claims in application No. 10/095,633 to be almost equivalent to the current invention. Thus, the present invention is not patentably distinct from application No. 10/095,633.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

Claims 1-3, 5, and 8 are rejected under 35 U.S.C. 102(a) as being anticipated clearly by Komada et al (U.S. 6,043,186).

Komada et al discloses an ammoxidation catalyst comprising a compound oxide represented by the formula : $\text{Mo}_{1.0} \text{V}_{0.34} \text{Nb}_{0.14} \text{Te}_{0.24} \text{Sm}_{0.013} \text{O}_n$ (see col. 13, lines 45-50). This is identical with the claimed catalyst compound.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hibst et al (U.S. 5,807,531) teaches multimetal oxides containing Mo, V and one of the elements, such as W, Nb, Ti, Zr, Hf, Ta, Cr, Si, and Ge, which are used for the catalytic gas-phase oxidation of organic compounds.

Tenten et al (U.S. 5,677,261) teaches a process of preparing a catalyst consists of a carrier and a catalytically active oxide material applied to the surface of the carrier and to the use of coated catalysts.

Tenten et al (U.S. 5,512,525) teaches a process of regenerating a spent multimetal oxide oxidation catalyst from the catalytic gas-phase oxidation of lower organic compounds in which the catalyst contains the elements Mo, W, V, and Cu. In

the case of the oxidation of acrolein to acrylic acid, the reaction temperature are in the range from 200⁰ to 400⁰ C.

Hefner et al (U.S. 5,705,684) teaches a process of preparing acrolein, acrylic acid, in which propane is subjected to a partial heterogeneously catalyzed dehydrogenation to give propylene, then the propylene is further subjected to a selective heterogeneously catalyzed gas-phase partial oxidation with oxygen to give acrolein, acrylic acid, and finally the target product is separated from the product gas stream.


Lin et al (EP0962253) teaches a process for preparing a multi-metal oxide catalyst $A_a M_m N_n X_x O_o$ which is useful for the gas phase oxidation of alkanes to unsaturated carboxylic acids.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2742 for regular communications and 703-305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.


2/6/53


ALAN L. ROTMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600